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U.S. Patent Application Serial No. 10/502,222
Reply to Office Action dated December 20, 2006

Remarks:

Applicants have read and considered the Office Action dated December 20, 2006 and the references cited therein, and the Notice of Non-Compliant Amendment dated May 23, 2007. Claims 1, 7, 8, 11, 12, 17, 18, 20 and 23 have been amended. Claim 6 has been cancelled without prejudice or disclaimer, and parentheses have been placed around the word 'cancelled' as required by the Notice of Non-Compliant Amendment. Claims 1-15 and 7-23 are currently pending. Reexamination and reconsideration are hereby requested.

In the Office Action, claim 11 was objected to for a typographical error. Claim 11 has been amended to correct the typographical error. Applicants assert that the objection has been overcome and should be withdrawn.

Claims 6, 7 and 17 were rejected under 35 U.S.C. § 112 as being indefinite. The Office Action stated the precise meaning of claim 6 was unclear and does not appear to further limit claim 1. Claim 6 has been cancelled without prejudice or disclaimer. The pendency of claim 7 has been changed so that it now depends from claim 1 rather than claim 6.

In addition, the dependency of claim 17 was unclear. Claim 17 has been amended to clarify that it depends from claim 1. Applicants assert that the indefiniteness rejections have been overcome. Applicants request that the rejections be withdrawn.

Claims 1-22 were rejected as being unpatentable over Baumgart et al. The Office Action states that the reference teaches paint for plastic or metallic materials comprising the claimed materials. The Office Action also states that it is the Examiner's position that waxes are inherently dispersed in a solvent. In addition, the Office Action states that the concentrations would have been obvious to one of ordinary skill in the art to optimize the result-effective variables. Applicants respectfully traverse the rejection.

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Claim 1 now recites a paint for plastic or metallic materials comprising one or more acrylic-based resins that can undergo cross-linking solely by exposure to ultraviolet radiation. Claim 1 further recites one or more photo-initiators as sources of free radicals present in an amount ranging between 0.5 wt% and 5.0 wt%, to induce cross-linking of said acrylic resin in the presence of UV radiation, one or more fillers, a dispersion of waxes in solvents for orienting said fillers, and levelling additives; wherein said acrylic-based resin comprises a urethane-acrylate oligomer in a weight percentage of between 30 wt% and 60 wt%. Applicants assert that claim 1 patentably distinguishes over Baumgart et al. or any other prior art or combination thereof. Baumgart et al. relates to a coating material that can be cross-linked thermally and by actinic radiation. The Baumgart patent describes a coating material containing hydroxyl reactive groups capable of reacting thermally with isocyanate terminal groups and reactive function groups having at least one double bond and can be activated by actinic radiation.

Conversely, the present invention describes a paint with one or more acrylic-based resins that can be cross-linked exclusively by exposure to UV radiation. This is a fundamental difference of the present invention as compared to the prior art. Moreover, the processes for cross-linking according to the present invention provide advantages over the prior art. The present invention allows for use of raw materials currently available on the market which has yielded unexpected results by obtaining a pigmented UV single-coat finishing product with excellent mechanical and chemical resistance. With just a single coat, excellent aesthetic and mechanical properties are achieved. This is opposed to known multi-coat systems, wherein aesthetic functions may be applied with one coat but additional coats are required to provide chemical and mechanical protection.

The present invention also overcomes problems related to submission to high thermal stress found with other systems, including Baumgart. Moreover, the flash off period of the present invention is conducted at only 40-60 degrees Celsius in just a few minutes with immediate UV cross-linking. After such exposure, there is no further stress to the coating.

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Conversely, the Baumgart patent requires a process after application including a long flash off period, cross-linking with actinic radiation and post baking in an oven for a further period of time. This is a much more complicated and expensive process and places more stress on the coating materials.

The Office Action also states that the relative percentages would be obvious and could be easily optimized as there are no unexpected results. Applicant respectfully asserts that the present invention does provide surprising results and advantages over the prior art. The choice and type and relative percentage of photo initiators is used with commercially available pigments, which absorb a portion of the energy in the same range as the photo initiators and diminish the efficiency of cross linking. The present invention provides more than a satisfactory degree of cross linking at both in-depth and on the surface of the paint. The present invention also obtains good wettability without the use of wetting additives, which was unexpected and provides non-obvious advantages over the prior art.

Applicants assert that claim 1 provides non-obvious advantages over Baumgart and any other prior art or combination thereof. Applicant further asserts that the claims depending therefrom are also allowable for at least the same reasons as well as other advantages. Applicants request that the rejection under 35 U.S.C. § 103(a) be withdrawn.

Claim 23 was objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Applicants thank the Examiner for the indication of allowable subject matter. Claim 23 has been rewritten in independent form and is therefore believed to be allowable.

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A speedy and favorable action in the form of a Notice of Allowance is hereby solicited.
If the Examiner feels that a telephone interview may be helpful in this matter, please contact
Applicants' representative at (612) 336-4728.

Respectfully submitted,

MERCHANT & GOULD P.C.

Dated: June 8, 2007



By: _____

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